What is claimed is:

1. A digital contents distribution system for distributing digital contents through first and second networks, the system comprising:

a server connected to the first network and for holding therein and transmitting digital contents; and

clients constructing the second network connected to the first network and for receiving and providing the digital contents,

wherein the server comprises means for dividing the held digital contents into a plurality of packets and for transmitting packets of a minimum unit for constructing the digital contents to the second network, and

wherein each of the clients constructing the second network comprises means for making the clients connected to the second network hold therein the digital contents by use of the packets of the minimum unit, the packets having been received by the clients from the server, and use of packets received from other clients constructing the second network.

2. The digital contents distribution system according to claim 1,

wherein the server comprises means for dynamically allocating the packets of the minimum unit to a plurality of the clients of the second network.

3. The digital contents distribution system according to

claim 2,

wherein the means for allocating the packets of the minimum unit to the plurality of clients of the second network comprises:

means for determining overheads of the clients; and

means for dynamically selecting at least one of the clients as an intermediate node in association with the overheads and for allocating the packets to the intermediate node.

4. The digital contents distribution system according to claim 3,

wherein the means for determining overheads of the clients comprises means for determining a time difference between a time when the server transmits the packets of the minimum unit to a predetermined client and a time when the predetermined client issues a receipt notice of the packets of the minimum unit.

5. A digital contents distribution method for distributing digital contents to clients through first and second networks, in which a system comprises a server connected to the first network and for transmitting the digital contents, and clients constructing the second network connected to the first network and for receiving and providing the digital contents, the method comprising the steps of:

dividing the digital contents into a plurality of packets and of transmitting packets of a minimum unit for

constructing the digital contents from the server to the clients;

receiving the packets of the minimum unit from the server by the clients constructing the second network;

receiving packets for reconstructing the digital contents from other clients constructing the second network; and

making the clients connected to the second network hold therein the digital contents by use of the packets of the minimum unit, the packets having been transmitted from the server, and use of the packets received from the other clients.

6. The digital contents distribution method according to claim 5,

wherein the step of transmitting packets of a minimum unit comprises the step of dynamically allocating the packets of the minimum unit from the server to a plurality of the clients of the second network.

7. The digital contents distribution method according to claim 6,

wherein the step of dynamically allocating the packets of the minimum unit to a plurality of the clients of the second network comprises the steps of:

determining overheads of the clients;

making the server hold the overheads therein;

selecting a client serving as an intermediate node in

association with the held overheads; and

allocating the packets of the minimum unit to the client selected as the intermediate node.

8. The digital contents distribution method according to claim 7,

wherein the step of determining overheads of the clients comprises the steps of:

registering in the server a time when the server transmits the packets of the minimum unit to a predetermined client;

registering in the server a time when the predetermined client issues a receipt notice of the packets; and

calculating a time difference between the transmission time and the issuance time.

9. A program for executing a server process for executing a method for distributing digital contents to a destination through first and second networks, in which a system comprises a server connected to the first network and for transmitting the digital contents, and clients constructing the second network connected to the first network and having destinations designated for receiving and providing the digital contents, the program making the system execute the steps of:

dividing the digital contents into a plurality of packets;

dynamically allocating packets of a minimum unit from

the server to a plurality of the destinations of the second network; and

transmitting the packets of the minimum unit for constructing the digital contents from the server through the first network to the second network,

wherein the step of allocating packets of a minimum unit comprises the steps of:

receiving receipt notices from the destinations;

making the server hold the receipt notices therein;

selecting a destination serving as an intermediate node in association with the held receipt notices by use thereof; and

allocating the packets of the minimum unit to the destination selected as the intermediate node.

10. The program according to claim 9,

wherein the step of selecting a destination comprises the steps of:

registering in the server a time when the server transmits the packets of the minimum unit to a predetermined destination;

registering in the server a time when the receipt notice of the packets of the minimum unit is issued; and

calculating a time difference between the transmission time and the issuance time.

11. A computer readable recording medium recording therein a program for executing a server process for executing a method

for distributing digital contents to a destination through first and second networks, in which a system comprises a server connected to the first network and for transmitting the digital contents, and clients constructing the second network connected to the first network and having destinations designated for receiving and providing the digital contents,

wherein the program makes the system execute the steps of:

dividing the digital contents into a plurality of packets;

dynamically allocating packets of a minimum unit from the server to a plurality of the destinations of the second network; and

transmitting the packets of the minimum unit for constructing the digital contents from the server through the first network to the second network, and

wherein the step of allocating packets of a minimum unit comprises the steps of:

receiving receipt notices from the destinations;

making the server hold the receipt notices therein;

selecting a destination serving as an intermediate node in association with the held receipt notices by use thereof; and

allocating the packets of the minimum unit to the destination selected as the intermediate node.

12. The computer readable recording medium recording therein the program, according to claim 11,

wherein the step of selecting a destination comprises the steps of:

registering in the server a time when the server transmits the packets of the minimum unit to a predetermined destination;

registering in the server a time when the receipt notice of the packets of the minimum unit is issued; and

calculating a time difference between the transmission time and the issuance time.

13. The computer readable recording medium recording therein the program, according to claim 12,

wherein the step of selecting a destination further comprises the steps of:

making the server hold a destination list therein;

selecting the destination by use of the destination list and the time when the receipt notice is issued; and

periodically updating the destination list.

14. A program for executing a client process for executing a method for distributing digital contents to clients through first and second networks, in which a system comprises a server connected to the first network and for transmitting the digital contents, and the clients constructing the second network connected to the first network and for receiving and providing the digital contents, the program making the

clients execute the steps of:

receiving packets of a minimum unit constructing digital contents divided into a plurality of packets through the first network;

receiving packets for reconstructing the digital contents from other clients constructing the second network; and

making the clients included in the second network hold therein the digital contents by use of the packets of the minimum unit, the packets having been received through the first network, and use of the packets received from the other clients.

15. The program according to claim 14, wherein the client having received the packets of the minimum unit is further made to execute the step of preparing a receipt notice including a time of receiving the packets of the minimum unit.

16. The program according to claim 14, wherein the client is further made to execute the step of identifying the packets of the minimum unit from the packets received from the other clients.

17. The program according to claim 14,

wherein the client is further made to execute the steps of:

preparing a list of members constructing the second network; and

updating the list in any of cases where a client is added to and deleted from the second network.

18. A computer readable recording medium recording therein a program for executing a client process for executing a method for distributing digital contents to clients through first and second networks, in which a system comprises a server connected to the first network and for transmitting the digital contents, and the clients constructing the second network connected to the first network and for receiving and providing the digital contents,

wherein the program makes the clients execute the steps of:

receiving packets of a minimum unit constructing digital contents divided into a plurality of packets through the first network;

receiving packets for reconstructing the digital contents from other clients constructing the second network; and

making the clients included in the second network hold therein the digital contents by use of the packets of the minimum unit, the packets having been received through the first network, and use of the packets received from the other clients.

19. The recording medium according to claim 18, wherein the client having received the packets of the minimum unit is further made to execute the step of preparing a receipt

notice including a time of receiving the packets of the minimum unit.

20. The recording medium according to claim 18, wherein the client is further made to execute the step of identifying the packets of the minimum unit from the packets received from the other clients.

21. The recording medium according to claim 18,

wherein the client is further made to execute the steps of:

preparing a list of members constructing the second network; and

updating the list in any of cases where a client is added to and deleted from the second network.

22. A digital contents distribution server connected to a first network and for providing digital contents to a second network connected to the first network, the server comprising:

means for dividing the digital contents into a plurality of packets;

means for storing a list including destinations included in the second network;

means for transmitting packets of a minimum unit for constructing the digital contents from the server through the first network to the second network;

dynamic allocation means for dynamically allocating, by use of the list, the destinations to the second network to

which the packets of the minimum unit are transmitted;

means for receiving receipt notices from the destinations;

means for selecting a destination serving as an intermediate node by use of the receipt notices; and

means for transmitting the packets of the minimum unit by use of the destination selected as the intermediate node.

23. The server according to claim 22,

wherein the dynamic allocation means comprises:

means for registering, with the server, a time when the server transmits the packets of the minimum unit to a predetermined destination;

means for registering, with the server, a time when a client having the predetermined destination issues the receipt notice of the packets of the minimum unit; and

means for calculating a time difference between the transmission time and the receipt notice issuance time.

24. The server according to claim 22, further comprising:

a destination list; and

means for dynamically updating the destination list in association with a change of a construction of the second network.

25. A client for receiving digital contents distributed through a first network and constructing a second network connected to the first network, the client comprising:

means for receiving, through the first network, packets of a minimum unit constructing digital contents divided into a plurality of packets;

means for receiving packets for reconstructing the digital contents through the second network; and

means for making clients included in the second network hold the digital contents therein by use of the packets of the minimum unit received through the first network and packets received from other clients through the second network.

26. The client according to claim 25, further comprising: means for preparing a receipt notice including a time of receiving the packets of the minimum unit.

27. The client according to claim 25, further comprising: means for identifying the packets of the minimum unit from the packets received from the other clients.

28. The client according to claim 25, further comprising:

a list of members constructing the second network; and

means for updating the list in any of cases where a client is added to and deleted from the second network.

29. A digital contents distribution system for distributing digital contents to a predetermined wide area group through first and second networks, the system comprising:

a server connected to the first network and for holding therein and transmitting the digital contents; and

a plurality of groups constructed by including clients

constructing the second network connected to the first network and for constructing the wide area group for receiving and providing the digital contents,

wherein the server comprises means for dividing the held digital contents into a plurality of packets and transmitting packets of a minimum unit for constructing the digital contents to the clients in the group without overlap, and

wherein each of the clients having received the packets of the minimum unit comprises means for distributing copies of the packets of the minimum unit received from the server to all of the clients constructing a group including the each client and another client constructing another group.

30. A server connected to a first network and for holding therein and distributing digital contents through the first network to a wide area group including a plurality of groups connected through a second network, the server comprising:

means for creating packets of a minimum unit by dividing the held digital contents into a plurality of packets;

means for selecting distribution destinations of the packets of the minimum unit in such a manner that identical packets of the minimum unit are not overlapped for a predetermined group; and

means for transmitting the packets of the minimum unit for constructing the digital contents to clients of the selected destinations in the group.

31. The server according to claim 30, wherein the means for creating packets of a minimum unit comprises means for creating packets of a minimum unit including data for distributing a copy of the packets of the minimum unit at least to another group.

32. A method for controlling a computer as a server for holding therein and distributing digital contents through a first network to a wide area group including a plurality of groups connected through a second network, the method making the computer execute the steps of:

creating packets of a minimum unit by dividing the held digital contents into a plurality of packets;

selecting and registering therewith distribution destinations of the packets of the minimum unit in such a manner that identical packets of the minimum unit are not overlapped for a predetermined group;

storing data of the selected distribution destinations as the packets of the minimum unit; and

reading and transmitting, for constructing the digital contents, the stored packets of the minimum unit to clients of the selected distribution destinations in the group.

33. A program for controlling a computer as a server for holding therein and distributing digital contents through a first network to a wide area group including a plurality of groups connected through a second network, the program making the computer execute the steps of:

creating packets of a minimum unit by dividing the held digital contents into a plurality of packets;

selecting and registering therewith distribution destinations of the packets of the minimum unit in such a manner that identical packets of the minimum unit are not overlapped for a predetermined group;

storing data of the selected distribution destinations as the packets of the minimum unit; and

reading and transmitting, for constructing the digital contents, the stored packets of the minimum unit to clients of the selected distribution destinations in the group.

34. A computer readable recording medium recording therein a program for controlling a computer as a server for holding therein and distributing digital contents through a first network to a wide area group including a plurality of groups connected through a second network,

wherein the program makes the computer execute the steps of:

creating packets of a minimum unit by dividing the held digital contents into a plurality of packets;

selecting and registering therewith distribution destinations of the packets of the minimum unit in such a manner that identical packets of the minimum unit are not overlapped for a predetermined group;

storing data of the selected distribution destinations as the packets of the minimum unit; and

reading and transmitting, for constructing the digital contents, the stored packets of the minimum unit to clients of the selected distribution destinations in the group.

35. A client connected to a second network for distributing digital contents through a first network and the second network to a predetermined wide area group and constructing a group of the wide area group, the client comprising:

means for receiving packets through any of the first and second networks and for judging whether or not the received packets are packets of a minimum unit for reconstructing the digital contents; and

means for creating a copy packet from the received packets in response to the judgment and for distributing the copy packet at least to a client of another group.

36. The client according to claim 35, wherein the means for distributing a copy packet comprises means for reading at least a copy destination in another group from the received packets and for distributing the created copy packet to the read copy destination when the received packets are judged to be the packets of the minimum unit.

37. The client according to claim 36, further comprising: storage means for storing a list of the copy destinations therein.

38. A method for controlling a computer as a client connected to a second network for distributing digital contents through a first network and the second network to a predetermined

wide area group and constructing a group of the wide area group, the method making the computer execute the steps of:

receiving packets through any of the first and second networks and storing the received packets in a memory;

judging whether or not the received packets are packets of a minimum unit for reconstructing the digital contents;

when the received packets are judged to be the packets of the minimum unit, creating a copy packet from the received packets in response to the judgment and distributing the copy packet at least to a client of another group; and

when the received packets are judged not to be the packets of the minimum unit, storing the received packets in the memory.

39. A program for controlling a computer as a client connected to a second network for distributing digital contents through a first network and the second network to a predetermined wide area group and constructing a group of the wide area group, the program making the computer execute the steps of:

receiving packets through any of the first and second networks and storing the received packets in a memory;

judging whether or not the received packets are packets of a minimum unit for reconstructing the digital contents;

when the received packets are judged to be the packets of the minimum unit, creating a copy packet from the received packets in response to the judgment and distributing the copy

packet at least to a client of another group; and

when the received packets are judged not to be the packets of the minimum unit, storing the received packets in the memory.

40. A computer readable recording medium recording therein a program for controlling a computer as a client connected to a second network for distributing digital contents through a first network and the second network to a predetermined wide area group and constructing a group of the wide area group,

wherein the program makes the computer execute the steps of:

receiving packets through any of the first and second networks and storing the received packets in a memory;

judging whether or not the received packets are packets of a minimum unit for reconstructing the digital contents;

when the received packets are judged to be the packets of the minimum unit, creating a copy packet from the received packets in response to the judgment and distributing the copy packet at least to a client of another group; and

when the received packets are judged not to be the packets of the minimum unit, storing the received packets in the memory.

41. An on-network digital contents sharing method for sharing predetermined digital contents in clients connected through a plurality of networks, in which the predetermined digital contents are converted into a plurality of continuous stream

data, and packets of a minimum unit necessary to reconstruct the predetermined digital contents are transmitted from a server through the networks, the method comprising the steps of:

selecting the clients requiring distribution of the predetermined digital contents by reading a client list;

transmitting the packets of the minimum unit to the selected clients;

making the clients having received the packets of the minimum unit store the packets of the minimum unit in memories thereof, create copy packets and distribute the copy packets to other clients except for the clients having received the packets;

storing the copy packets received from the other clients in the memories; and

making users share the predetermined distributed digital contents by reconstructing the packets in the memories.